

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:
Please rewrite claim 94 as follows.

Listing of Claims:

Claims 1-65 (cancelled)

66. (previously presented) A heat sink material comprising carbon or graphite and metal which is at least one selected from Cu, Al, and Ag, said metal having one or more of Te, Bi, Pb, Sn, Se, Li, Sb, Tl, Ca and Cd added thereto for improving wettability at an interface between said carbon or graphite and said metal,

wherein said heat sink material is constructed by infiltrating a porous sintered member with said metal, said porous sintered member being obtained by sintering said carbon or said graphite to form a network,

wherein an average coefficient of thermal conductivity of those in directions of orthogonal three axes, or a coefficient of thermal conductivity in a direction of any axis is not less than 180 W/mK, and a ratio of coefficient of thermal conductivity is not more than 1:5 between a direction in which said coefficient of thermal conductivity is minimum and a direction in which said coefficient of thermal conductivity is maximum, and

wherein a coefficient of thermal expansion is 1×10^{-6} to $10 \times 10^{-6}/^{\circ}\text{C}$.

67. (cancelled)

68. (previously presented) The heat sink material according to claim 66, wherein an additive is added to said carbon or said graphite for decreasing a closed porosity when said carbon or said graphite is sintered.

69. (previously presented) The heat sink material according to claim 68, wherein said additive for decreasing said closed porosity is at least one selected from SiC and Si.

70. (previously presented) The heat sink material according to claim 66, wherein a closed porosity is not more than 12 % by volume.
71. (previously presented) The heat sink material according to claim 66, wherein said carbon or said graphite has a coefficient of thermal conductivity of not less than 100 W/mK.
72. (previously presented) The heat sink material according to claim 66, wherein as for volume ratios between said carbon or said graphite and said metal, said volume ratio of said carbon or said graphite is within a range from 20 to 80 % by volume, and said volume ratio of said metal is within a range from 80 to 20 % by volume.
73. (previously presented) A heat sink material comprising carbon or graphite and metal which is at least one selected from Cu, Al, and Ag, said metal having one or more of Nb, Cr, Zr, Be, Ti, Ta, V, B and Mn added to improve reactivity with said carbon or graphite, wherein said heat sink material is constructed by infiltrating a porous sintered member with said metal, said porous sintered member being obtained by sintering said carbon or said graphite to form a network, wherein an average coefficient of thermal conductivity of those in directions of orthogonal three axes, or a coefficient of thermal conductivity in a direction of any axis is not less than 180 W/mK, and a ratio of coefficient of thermal conductivity is not more than 1:5 between a direction in which said coefficient of thermal conductivity is minimum and a direction in which said coefficient of thermal conductivity is maximum, and wherein a coefficient of thermal expansion is 1×10^{-6} to $10 \times 10^{-6}/^{\circ}\text{C}$.
74. (cancelled)
75. (previously presented) The heat sink material according to claim 73, wherein an additive is added to said carbon or said graphite for decreasing a closed porosity when said carbon or said graphite is sintered.

76. (previously presented) The heat sink material according to claim 75, wherein said additive for decreasing said closed porosity is at least one selected from SiC and Si.
77. (previously presented) The heat sink material according to claim 73, wherein a closed porosity is not more than 12 % by volume.
78. (previously presented) The heat sink material according to claim 73, wherein said carbon or said graphite has a coefficient of thermal conductivity of not less than 100 W/mK.
79. (previously presented) The heat sink material according to claim 73, wherein as for volume ratios between said carbon or said graphite and said metal, said volume ratio of said carbon or said graphite is within a range from 20 to 80 % by volume, and said volume ratio of said metal is within a range from 80 to 20 % by volume.
80. (previously presented) A heat sink material comprising carbon or graphite and metal which is at least one selected from Cu and Ag, said metal includes an element added thereto to improve molten metal flow performance, said element added to said metal has a temperature range of solid phase/liquid phase of not less than 30°C,
wherein said heat sink material is constructed by infiltrating a porous sintered member with said metal, said porous sintered member being obtained by sintering said carbon or said graphite to form a network,
wherein an average coefficient of thermal conductivity of those in directions of orthogonal three axes, or a coefficient of thermal conductivity in a direction of any axis is not less than 180 W/mK, and a ratio of coefficient of thermal conductivity is not more than 1:5 between a direction in which said coefficient of thermal conductivity is minimum and a direction in which said coefficient of thermal conductivity is maximum, and
wherein a coefficient of thermal expansion is 1×10^{-6} to $10 \times 10^{-6}/^{\circ}\text{C}$.
81. (previously presented) The heat sink material according to claim 80, wherein said element added to said metal comprises Si.

82. (previously presented) The heat sink material according to claim 80, wherein an additive is added to said carbon or said graphite for decreasing a closed porosity when said carbon or said graphite is sintered.

83. (previously presented) The heat sink material according to claim 82, wherein said additive for decreasing said closed porosity is at least one selected from SiC and Si.

84. (previously presented) The heat sink material according to claim 80, wherein a closed porosity is not more than 12 % by volume.

85. (previously presented) The heat sink material according to claim 80, wherein said carbon or said graphite has a coefficient of thermal conductivity of not less than 100 W/mK.

86. (previously presented) The heat sink material according to claim 80, wherein as for volume ratios between said carbon or said graphite and said metal, said volume ratio of said carbon or said graphite is within a range from 20 to 80 % by volume, and said volume ratio of said metal is within a range from 80 to 20 % by volume.

87. (previously presented) A heat sink material comprising carbon or graphite and metal which is at least one selected from Cu, Al, and Ag, said metal having an element added thereto for lowering a melting point of said metal,

wherein said heat sink material is constructed by infiltrating a porous sintered member with said metal, said porous sintered member being obtained by sintering said carbon or said graphite to form a network,

wherein an average coefficient of thermal conductivity of those in directions of orthogonal three axes, or a coefficient of thermal conductivity in a direction of any axis is not less than 180 W/mK, and a ratio of coefficient of thermal conductivity is not more than 1:5 between a direction in which said coefficient of thermal conductivity is minimum and a direction in which said coefficient of thermal conductivity is maximum, and

wherein a coefficient of thermal expansion is 1×10^{-6} to $10 \times 10^{-6}/^{\circ}\text{C}$.

88. (previously presented) The heat sink material according to claim 87, wherein said element to be added is Zn.

89. (previously presented) The heat sink material according to claim 87, wherein an additive is added to said carbon or said graphite for decreasing a closed porosity when said carbon or said graphite is sintered.

90. (previously presented) The heat sink material according to claim 89, wherein said additive for decreasing said closed porosity is at least one selected from SiC and Si.

91. (previously presented) The heat sink material according to claim 87, wherein a closed porosity is not more than 12 % by volume.

92. (previously presented) The heat sink material according to claim 87, wherein said carbon or said graphite has a coefficient of thermal conductivity of not less than 100 W/mK.

93. (previously presented) The heat sink material according to claim 87, wherein as for volume ratios between said carbon or said graphite and said metal, said volume ratio of said carbon or said graphite is within a range from 20 to 80 % by volume, and said volume ratio of said metal is within a range from 80 to 20 % by volume.

94. (currently amended) A heat sink material comprising carbon or graphite and metal which is at least one selected from Cu, Al, and Ag, said metal having an element added thereto for improving a coefficient of thermal conductivity of said heat sink material, wherein said heat sink material is constructed by infiltrating a porous sintered member with said metal, said porous sintered member being obtained by sintering said carbon or said graphite to form a network, wherein said added element being alloyed with said metal to obtain an alloy which is deposited on the surface of said metal after heat treatment and reaction with carbon, and wherein said alloy has an initial coefficient of thermal conductivity of not less than 60 ~~400~~ W/mK.

wherein an average coefficient of thermal conductivity of said heat sink material in directions of orthogonal three axes, or a coefficient of thermal conductivity in a direction of any axis is not less than 180 W/mK, and a ratio of coefficient of thermal conductivity is not more than 1:5 between a direction in which said coefficient of thermal conductivity is minimum and a direction in which said coefficient of thermal conductivity is maximum, and wherein a coefficient of thermal expansion is 1×10^{-6} to $10 \times 10^{-6}/^{\circ}\text{C}$.

95. (cancelled)

96. (previously presented) The heat sink material according to claim 94, wherein an additive is added to said carbon or said graphite for decreasing a closed porosity when said carbon or said graphite is sintered.

97. (previously presented) The heat sink material according to claim 96, wherein said additive for decreasing said closed porosity is at least one selected from SiC and Si.

98. (previously presented) The heat sink material according to claim 94, wherein a closed porosity is not more than 12 % by volume.

99. (previously presented) The heat sink material according to claim 94, wherein said carbon or said graphite has a coefficient of thermal conductivity of not less than 100 W/mK.

100. (previously presented) The heat sink material according to claim 94, wherein as for volume ratios between said carbon or said graphite and said metal, said volume ratio of said carbon or said graphite is within a range from 20 to 80 % by volume, and said volume ratio of said metal is within a range from 80 to 20 % by volume.

101. (previously presented) A heat sink material comprising carbon or graphite and metal which is at least one selected from Cu, Al, and Ag,

wherein a carbide layer is formed on a surface of said carbon or said graphite,

wherein an average coefficient of thermal conductivity of those in directions of orthogonal three axes, or a coefficient of thermal conductivity in a direction of any axis is not less than 180 W/mK, and a ratio of coefficient of thermal conductivity is not more than 1:5 between a direction in which said coefficient of thermal conductivity is minimum and a direction in which said coefficient of thermal conductivity is maximum, and
wherein a coefficient of thermal expansion is 1×10^{-6} to $10 \times 10^{-6}/^{\circ}\text{C}$.

102. (previously presented) The heat sink material according to claim 101, wherein an element for forming a carbide layer is added to said metal, and wherein said carbide layer is formed on the basis of a reaction at least between said carbon or said graphite and the element to be added.

103. (previously presented) The heat sink material according to claim 102, wherein said element to be added is one or more of those selected from Ti, W, Mo, Nb, Cr, Zr, Be, Ta, V, B, and Mn.

104. (previously presented) A heat sink material comprising carbon or graphite and metal which is at least one selected from Cu, Al, and Ag,

wherein said heat sink material is constructed by infiltrating a porous sintered member with said metal, said porous sintered member being obtained by sintering said carbon or said graphite to form a network,

wherein an element which has a temperature range of solid phase/liquid phase of not less than 30°C is added to said metal in order to improve molten metal flow performance,

wherein an average coefficient of thermal conductivity of those in directions of orthogonal three axes, or a coefficient of thermal conductivity in a direction of any axis is not less than 180 W/mK, and a ratio of coefficient of thermal conductivity is not more than 1:5 between a direction in which said coefficient of thermal conductivity is minimum and a direction in which said coefficient of thermal conductivity is maximum, and

wherein a coefficient of thermal expansion is 1×10^{-6} to $10 \times 10^{-6}/^{\circ}\text{C}$.

105. (previously presented) The heat sink material according to claim 104, wherein said element to be added is one or more of those selected from Sn, P and Mg.

106. (previously presented) The heat sink material according to claim 105, wherein said element to be added is Si.